Q_1: <u>Chose the best answer (s)</u>:

1) The fundamental units of proteins are:
a) Amino acids
b) Monosaccharaides
c) Fatty acids
d) All of the above

2) The simplest units of carbohydrates are:
a) Amino acids
b) Monosaccharaides
c) Fatty acids
d) All of the above

3) _____ used as a source of energy?
a) Protein
b) Lipids
c) Vitamins
d) None of the above

4) _____ are important for body building?
a) Proteins
b) Carbohydrates
c) Vitamins
d) None of the above

5) _____ are important for protection?
a) Proteins
b) Carbohydrates
c) Vitamins
d) None of the above

6) _____ are important for acceleration of biochemical reactions?
a) Lipids
b) Carbohydrates
c) Enzymes
d) None of the above

7) None essential fatty acids and amino acids
a) Synthesized by the body
b) Cannot synthesized by the body
c) Polar
d) None of the body

8) The major source of energy are
a) Proteins
b) Carbohydrates
c) Vitamins
d) Lipids

9) The fundamental units of nucleic acids are:
a) Amino acids
b) Monosaccharaides
c) Nucleotides
d) All of the above

10) The bond that used for synthesis carbohydrates from their precursors are:
a) Glycosidic bonds
b) Peptide bonds
c) Ester bonds
d) Phosphodiester bonds

11) The bond that used for synthesis lipids from their precursors are:
a) Glycosidic bonds
b) Peptide bonds
c) Ester bonds
d) Phosphodiester bonds

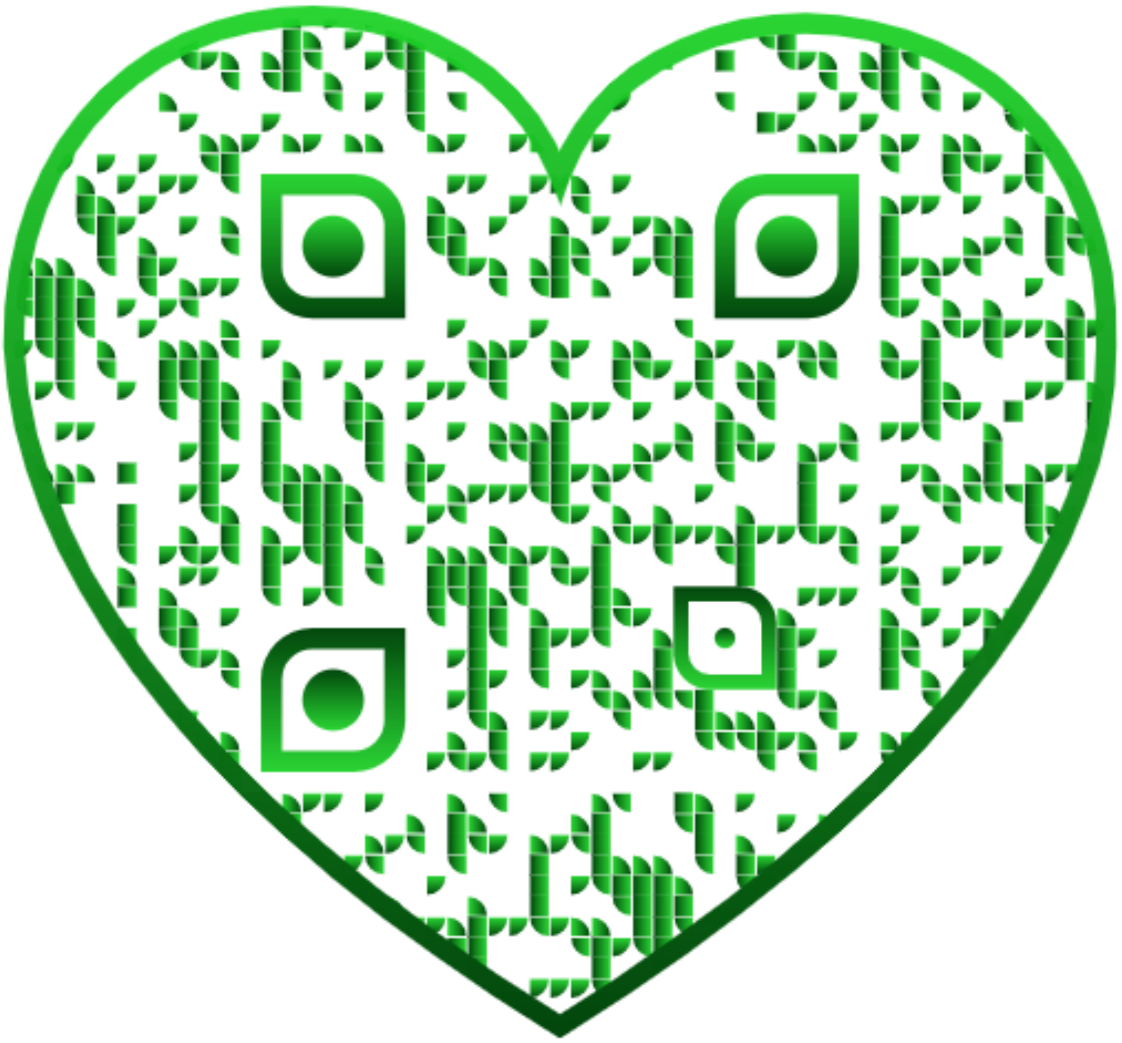
12) The bond that used for synthesis proteins from their precursors are:
a) Glycosidic bonds
b) Peptide bonds
c) Ester bonds
d) Phosphodiester bonds

13) The bond that used for synthesis nucleic acids from their precursors are:
a) Glycosidic bonds
b) Peptide bonds
c) Ester bonds
d) Phosphodiester bonds

14) The simplest aldose is:
a) Starch
b) Glyceraldehyde
c) Cellulose
d) Glucose

15) To possess optical activity, a compound must be:
a) Asymmetric
b) A hexose
c) Colored
d) D-lucose

16) Which of the following is aldehyde monosaccharaides?
a) D-Glucose
b) D-Fructose
c) D-Lactose
d) D-Sucrose



17) Which of the following is Ketone monosaccharaides?

a) D-Glucose
b) D-Fructose
c) D-Lactose
d) D-Sucrose

18) Which of the following monosaccharides is not an aldose?

a) Erythrose
b) Ribose
c) Glyceraldehyde
d) Fructose

19) The storage form of carbohydrate found in mammals is:

a) Glycogen
b) Starch
c) Inulin
d) Glucose

20) Which of the following is not containing hexose sugar?

a) Fructose
b) Glucose
c) Ribose
d) Sucrose

21) Which of the following is a homopolysaccharide?

a) Starch
b) Inulin
c) Cellulose
d) All of the above

22) Humans are unable to digest:

a) Starch
b) Complex carbohydrates
c) Cellulose
d) Inulin

23) A sugar acid that serves as lubricant in synovial fluid of the joints:

a) Hyaluronic acid
b) Glyceraldehyde
c) Cellulose
d) Lactose

24) Which of the following is a heteropolysaccharide acts as anti-coagulant?

a. Hyaluronate
b. Inulin
c. Heparin
d. Starch

25) A homopolysaccharides used as plasma expander (increased blood volume):

a) Hyaluronate
b) Dextran
c) Heparin
d) Starch

26) The main sugar of semen which used by sperms as an energy source is:

a) Fructose
b) Dextran
c) Heparin
d) Starch

27) Which of the following monosaccharides is ketohexose:

a) Galactose
b) fructose
c) Mannose
d) Glucose

28) Which of the following is an epimer of glucose:

a) Ribose
b) Xylose
c) Galactose
d) Erythrose

29) One of the following is found in the backbone structure of nucleic acid RNA:

a) Furanose
b) D-Ribose
c) Deoxyribose
d) L-Rhamnose

30) Which of the following monosaccharides does not have asymmetric carbon:

a) Fructose
b) Ribulose
c) Dihydroxy aceton
d) Xylose

31) The glycosidic bond α-(1-4) is present in the following disaccharide:

a) Lactose
b) Sucrose
c) Maltose
d) Trehalose

32) Which out of the following serves as lubricant in synovial fluid of the joints:

a) sucrose
b) Heparin
c) Keratan sulfate
d) Hyaluronic acid

33) All following polysaccharides are branched polymers except:

a) Glycogen
b) Amylose
c) Cellulose
d) Both B & C

34) Which of the following used as anti-coagulant:

a) Heparin
b) Dermatan sulfate
c) All the above
d) none of the above

35) Proteoglycan is contains:

a) 5% Carbohydrates
b) 50% Proteins
c) 95% Carbohydrates
d) 95% Proteins

36) In manitol the carbonyl group is reduced to:

a) Alcohol
b) Hydroxyl
c) Carboxyl
d) none of the above

37) The α and β forms of any monosaccharide are called:

a) Enantiomers
b) Anomers
c) Epimers
d) none of the above

38) Homopolysaccharides contain:

a) One type of monosaccharide units
b) One type of amino sugar units
c) Branched polysaccharides
d) Un-branched polysaccharides

39) The following monosaccharides are aldohexoses <u>except:</u>

a) Galactose
b) Fructose
c) Mannose
d) Glucose

40) All the followings are monosaccharides derivatives <u>except</u>:

a) Sugar acids
b) Dehydroxy sugars
c) Inositol
d) Amino sugars

41) All the following are Homopolysaccharides <u>except</u>:

a) Heparin
b) Cellulose
c) Dextrose
d) Glycogen

42) All following polysaccharides are non-branched polymers <u>except</u>:

a) Cellulose
b) Amylose
c) Glycogen
d) Inulin

43) Which of the following sugars can used to evaluate renal function:

a) Fucose
b) Inulin
c) Hyaluronic acid
d) Heparin

44) Which of the following sugar acids are produced by oxidation of glucose aldehyde group:

a) Gluconic acid
b) Glucuronic acid
c) Glucaric acid
d) All of them

45) The following sugars are considered as glucose epimers:

a) Ribose and Ribulose
b) Sucrose and Fructose
c) Xylose and Arabinose
d) Mannose and Galactose

46) Which out of the following disaccharide contain glucose<u>:</u>

a) Lactose
b) Maltose
c) Sucrose
d) All of them

47) The monosaccharides that have five carbons skeleton are:

a) Galactose and Mannose
b) Ribose and Erythrose
c) Glucose and Xylulose
d) Xylose and Ribose

48) Sorbitol is a reduced sugar used as:

a) Blood anticoagulant
b) Sugar substitute for diabetes
c) Safe therapy of osteoarthritis
d) None of the above

49) The classification of monosaccharides is based on:

a) The number of the sugar units they contain
b) The number of carbon atoms they contain
c) All the above
d) None the above

50) Heteropolysaccharides are polymers consisting:

a) Two or more different polysaccharides
b) Two or more different monosaccharides
c) Amine group
d) Acetyle group

51) The important of antioxidants in the body are:

a) remove free radicals
b) protect cell membrane
c) consider anticancer
d) All of them

52) Which of the following monosaccharides is not an aldose?

a) Erythrose
b) Ribose
c) Glyceraldehyde
d) Fructose

53) The storage form of carbohydrate found in mammals is:

a) Glycogen
b) Starch
c) Inulin
d) Starch and glycogen

54) To possess optical activity, a compound must be:

a) A carbohydrate
b) A hexose
c) Asymmetric
d) D-glucose

55) Which of the following is an epimeric pair?

a) D-glucose & D-glucosamine
b) D-glucose & D-mannose
c) D-lactose & D-sucrose
d) L-mannose & L-fructose

56) Which of the following is non-reducing sugar?

a) Fructose
b) Glucose
c) Ribose
d) Sucrose

57) Which of the following is a heteropolysaccharide?

a) Hyaluronate
b) Glycogen
c) Cellulose
d) Starch

58) The combination of an alcohol, fatty acid and phosphoric acid form

a) Phospholipids
b) Sulpholipids
c) Glycolipids
d) Aminolipids

59) Neutral triglycerides that are liquid at room temperature:

a) Fats
b) Waxes
c) Oils
d) All of the above

60) Lung surfactant is formed from

a) Dipalmitoyl-lecithin
b) sphingomyelin
c) Apoproteins
d) All of the above

61) Arachidonic acid has 20 carbon atoms with

a) 3 double bonds
b) 2 double bonds
c) 4 double bonds
d) None of the above

62) Which of the followings fatty acids have 18 carbon–

a) Oleic acid
b) Linoleic acid
c) Stearic acid
d) All of them

63) Ceramide is a component of-

a) Cerebrosides
b) Gangliosides
c) Sphigomyelin
d) All of the above

64) N-actyl-galacose amine is a component of-

a) GM1
b) GM2
c) None of the above
d) All of the above

65) All are essential fatty acids except-

a) Linoleic,
b) Linolenic
c) Arachidic acid
d) Arachidonic acid

66) The Sitosterol is a –

a) Benefit lipid
b) Harmful lipid
c) Phospholipid
d) A & C

67) Glycerol is used for the synthesis of all except-

a) Phospholipids,
b) Glucose
c) Triacylglycerol
d) All of them

68) Which of the followings is a fatty acid with 16 carbon atoms and one double bond?

a) Palmitoleic acid
b) Oleic acid
c) Linoleic acid
d) None of the above

69) HDL-cholesterol is a –

a) Good Cholesterol
b) Transport cholesterol from extra-hepatic tissues to liver
c) Bad Cholesterol
d) A & b

70) Cholesterol is a precursor of all except-

a) Bile salts,
b) Vitamin D
c) Steroids
d) All of the following

71) Neutral triglycerides that are solid at room temperature:

a) Fats
b) Oil
c) Waxes
d) None of the above

72) Palmatic acid has 16 carbon atoms with

a) 3 double bonds
b) 2 double bonds
c) 1 double bonds
d) None double bonds

73) The good lipids is that contain more-

a) Saturated fatty acids
b) Unsaturated fatty acids
c) Long chain fatty acids
d) All of them

74) N-actyl-galacose amine is a component of_____ Except:

a) GM1
b) GM2
c) GM3
d) All of them

75) LDL-cholesterol is a –

a) Good Cholesterol
b) Bad Cholesterol
c) All of the above
d) None of the above

76) Arachidonic acid has 20 carbon atoms with

a) 3 double bonds
b) 4 double bonds
c) None double bonds
d) None of the above

77) All are essential fatty acids except-

a) Linoleic acid
b) Linolenic acid
c) Oleic acid
d) Arachidonic acid

78) Respiratory distress syndrome is a disease that result from deficiency of

a) Dipalmitoyl-lecithin
b) Arachidic acid
c) Cerebrosides
d) All of them

79) Sphingosin is a component of-

a) Cerebrosides
b) Gangliosides
c) Sphingomyelin
d) All of them

80) All of the followings have 18 carbon atoms with double bond(s) except –

a) Oleic acid
b) Linoleic acid
c) Stearic acid
d) Linolenic acid

81) All of the followings have 20 carbon atoms except –

a) Arachidic acid
b) Arachidonic acid
c) Linolenic acid
d) Timnodonic acid

82) _____is essential fatty acid.

a) lenolenic acid
b) butyric acid
c) oleic acid
d) palmitic acid

83) lipids act as:

a) nerves insulator
b) lung surfactant
c) source of energy
d) all of them

84) Chylomicrons are one classification of:

a) phospholipid b) protein
c) glycolipids d) lipoproteins

85) Lipoproteins with high lipid have:

a) high density with low proteins b) low density with low proteins
c) high density with high proteins d) low density with high proteins

86) _____ is not unsaturated fatty acid.

a) palmitoleic acid b) oleic acid
c) linoleic acid d) stearic acid

87) A phospholipid that acts as platelets activating factor is:

a) phosphatidyl ethanolamine b) phosphatidyl serine
c) phosphatidyl choline d) plasmalogen

88) Bile acids are formed from:

a) triglycerides b) fatty acids
c) phospholipids d) cholesterol

89) Simple lipid is:

a) triglycerides b) cholesterol
c) glycerol d) prostaglandins

90) Which amino acid contain indole group?

a) Histidine b) Arginine
c) Tryptophan d) Serine

91) Hemoglobin is composed of:

a) 3 polypeptide chains b) one polypeptide chain
c) 4 polypeptide chains d) 2 polypeptide chains

92) α-keratin is:

a) a globular proteins b) Tertiary proteins
c) a fibrous protein d) None of the above

93) Proteinuria condition occurs due to:

a) Nephrotic syndrome b) Diabetic mellitus
c) Diabetic insipidus d) None of the above

94) Which of the following is essential amino acid?

a) Glycine b) Methionine
c) Cysteine d) Tyrosine

95) Which of the following process is cause protein precipitation?

a) Salting out b) Heavy Metals
c) Alcohols d) All of them

96) Histones are

a) Conjugated proteins b) Rich in aspartate amino acid
c) Basic proteins d) Scleroproteins

97) All the following are simple proteins Except

a) Ceruloplasmin b) Histones
c) Protamines d) Globulins

98) Glutathione is a

a) Dipeptide b) Tripeptide
c) Polypeptide d) None of the above

99) Which of the following amino acid contain heterocyclic imidazole ring?

a) Glutamic acid b) Arginine
c) Valine d) Histidine

100) All the following amino acids have OH group in their formula except

a) Cysteine b) Threonine
c) Serine d) Tyrosine

101) Which of the following amino acid contain *guanidino group*?

a) Glutamic acid
b) Arginine
c) Valine
d) Histidine

102) Tryptophan is

a) Aromatic amino acid
b) Aliphatic amino acid
c) Basic amino acid
d) Acidic amino acid

103) Simple proteins are classified into two groups:

a) globular proteins
b) Fibrous proteins
c) both A and B
d) none

104) _____ Contain secondary amine group instead of α amino group

a) Aliphatic amino acids
b) Aromatic amino acids
c) Imino amino acids
d) All of them

105) All of the following amino acids are non-essential EXCEPT

a) Asparagine
b) Alanine
c) Proline
d) Lysine

106) Glycine is not optically active because

a) It is amphoteric molecules
b) It doesn't have asymmetric carbon
c) It has both basic & acidic group
d) none of the above

107) At certain pH environments isoelectric point affects the

a) solubility of molecule
b) solubility of solvent
c) temperature
d) density of molecule

108) The solubility of proteins are affected by

a) Net charge
b) Isoelectric point
c) Polarity
d) All of them

109) Which of the following bonds are maintained the tertiary proteins conformation

a) Ionic
b) disulphide
c) Both A & B
d) peptide

110) PH at which amino acids does not migrate in an electric field in

a) isoelectric
b) electric point
c) field point
d) all of above

111) Linear sequence of amino acids forms

a) 1° structure
b) 2° structure
c) 3° structure
d) 4° structure

112) Which out of the following responsible on 2° structure of protein

a) Sulfur linkage
b) Amide group
c) Hydrogen bond
d) Polypeptide units of folded sheet

113) In beta pleated sheet, hydrogen bonding is between

a) sulfur linkage
b) amide group
c) inside a single sheet
d) polypeptide units of folded sheet

114) 2° structure of proteins has

a) only one type
b) three types
c) two types
d) four types

115) A process by which a protein structure assumes its functional conformation is

a) denaturing
b) folding
c) synthesis
d) hydrolysis

116) Coiling and folding of polypeptide chain gives us

a) 1° structure
b) 2° structure
c) 3° structure
d) 4° structure

117) In peptide chain alpha helix is secured by

a) sulfur linkage
b) amide group
c) carboxyl group
d) hydrogen bonding

118) The nucleotides in nucleic acids are joined by

a) Hydrogen bonds b) Nitrogen bonds
c) peptide bonds d) None of them

119) Nucleotides are composed of:

a) Pentose sugar b) Nitrogen bases
c) Phosphates groups d) All of them is correct

120) Nucleic acids are molecules that store genetic information for

a) cellular growth b) reproduction
c) A & B d) None of the above

121) Genetic information is stored on

a) Pentose sugar b) Nitrogen bases
c) Phosphates groups d) All of them is correct

122) Protein conjugated with metals is called

a) Nucleoprotein b) Glycoprotein
c) Metaloprotein d) Derived protein

123) _____ is a process that convert protein from folded into unfolded structure

a) Denaturation b) Salting out
c) Solubility d) Precipitation

124) Coiling and folding of single polypeptide chain gives us

a) Beta pleated sheet structure b) Alpha helix structure
c) 1° structure d) 4° structure

125) Glutathione is tripeptide formed of

a) lysine, serine, methionine b) Glutamate, Aspartate, alanine
c) glutamate, cysteine & Glycine d) valine, proline, tyrosine

126) Amino acids that are neutral and contain amide group are:

a) Aspartic acid b) Glutamine
c) Glutamic acid d) All of the above

127) The following are essential and none polar amino acids:

a) Glycine b) Tryptophan
c) Tyrosine d) Serein

128) Amino acid that contains basic group is

a) Phenylalanine b) Tryptophan
c) Arginine d) A & B

129) Which of the followings are simple globular ovoproteins, found in egg white

a) Globulin b) Albumin
c) A & B d) None of the above

130) Amino acids that contain sulfur are:

a) Serine b) Methionine
c) Arginine d) All the above

131) The following are simple proteins except:

a) Protamine b) Abumine
c) Histone d) lipoprotein

132) Transporter proteins are:

a) Lipoprotein b) Ferritin
c) Collagen d) All of the above

133) All the followings are non-polar amino acid except

A) Alanine b) Tryptophan
c) Aspartic acids d) None of the above

134) The following are Purine bases:

a) Cytosine and adenine b) Thyamine and adenine
c) Adeneine and uricil d) Adenine and guanine

135) The main components of nucleosides are:

a) Ribose b) Nitrogen base

d) Phosphate group d) A and B

136) The following components is found in RNA nucleic acid:

a) Ribose b) Deoxyribose

d) Thymine d) None of the above

137) The best source of vitamin D

e) Animal sources f) Plant sources

g) Sun exposure h) Both (a) & (b)

138) Vitamin A deficiency leads to

a) Rickets b) Pellagra

c) Night blindness d) All of these

139) Vitamin D deficiency in children leads to

a) Rickets b) Pellagra

c) Osteomalcia d) Beriberi

140) Vitamin K has a role in

a) Coagulation b) Vision

c) Energy production d) All of the above

141) Vitamin A has a role in

a) Coagulation b) Vision

c) Energy production d) All of the above

142) beriberi is a weakness disease that results from

a) Vitamin B_1 deficiency b) Vitamin B_3 deficiency

c) Vitamin B_6 deficiency d) Vitamin B_{12} deficiency

143) The active form (s) of vitamin B_2 is

a) NAD^+ b) FAD

c) FMN d) Both (b) & (c)

144) Pellagra is a 3Ds disease that results from

a) Vitamin B_1 deficiency b) Vitamin B_3 deficiency

c) Vitamin B_6 deficiency d) Vitamin B_{12} deficiency

145) The active form(s) of vitamin B_9 is

a) THF b) TPP

c) PLP d) Acyl carrier protein

146) Vitamin B_{12} deficiency may lead to

a) Decrease iron absorption b) Macrocytic anaemia

c) Bleeding d) All of the above

147) The biochemical reactions inhibited by

a) Activators b) Inhibitors

c) cofactors d) All of the above

148) Creatine kinase (CK-MB) may increase in

a) Myocardial infarction b) Leukemia

c) Hepatic disorder d) All of the above

149) The enzymes activity affected by

a) [E] b) [S]

c) Temperature d) All of the above

150) Enzymes accelerate the biochemical reactions by

a) Lowering the activation energy b) Saving the activation energy constant

c) Increasing the activation energy d) All of the above

151) Keratomalacia is a disease that result from

a) Vitamin A deficiency b) Vitamin D deficiency

c) Vitamin C deficiency d) Vitamin B_3 deficiency

152) The active form(s) of B_3

a) NAD+ b) TPP
c) PLP d) THF

153) Vitamin D deficiency leads to

a) Rickets b) Osteomalcia
c) A & B d) Pellagra

154) The active form (s) of Vitamin B_5 is

a) NAD^+ b) ACP
c) COASH d) Both (b) & (c)

155) Vitamin C deficiency leads to

a) Iron deficiency anaemia b) Scurvy
c) Petechiae d) All of them

156) Beriberi is a weakness disease that results from

a) Thiamin deficiency b) Niacin deficiency
c) Biotin deficiency d) Vitamin B_{12} deficiency

157) Pellagra is a 3Ds disease that results from

a) Niacin deficiency b) Thiamin deficiency
c) Biotin deficiency d) Vitamin B_{12} deficiency

158) Scurvy is a disease that results from

a) Vitamin B_3 deficiency b) Vitamin B_1 deficiency
c) Vitamin B_6 deficiency d) Vitamin C deficiency

159) Vitamin B_2 deficiency may lead to

a) Decrease iron absorption b) Macrocytic anaemia
c) Fissuring of the mouth corners & lips d) All of them

160) The biochemical reactions stimulated by

a) Activators b) Inhibitors
c) Suppressors d) All of them

المجموعه الثالثه - طب بشري